MacroHard (Team h)

MacroCenter
Design Report

Version 1.0

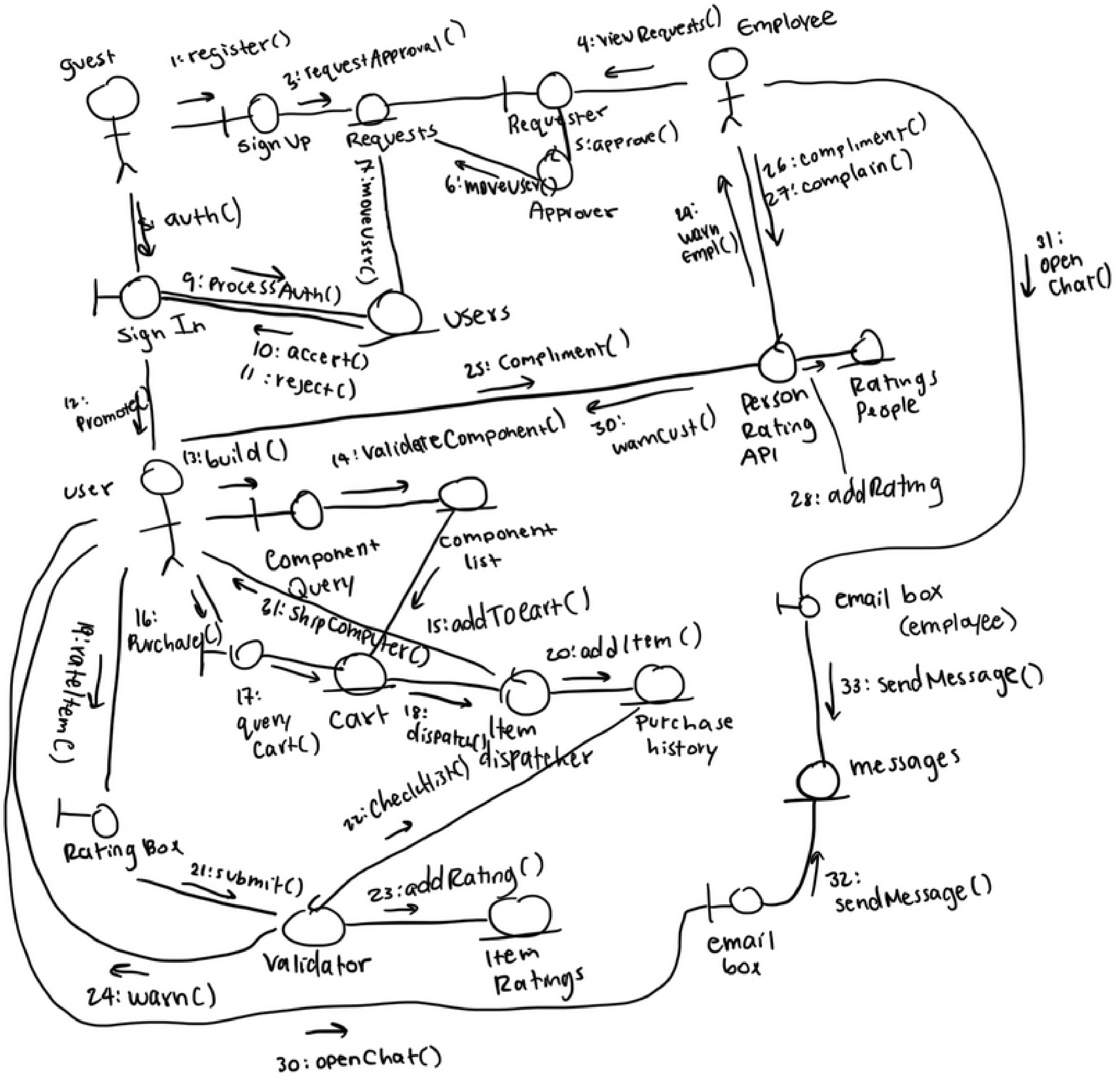
Nabil Omi, Tanim Islam, Jobanpreet Singh, Jiazhou Zhang

March 26th, 2023

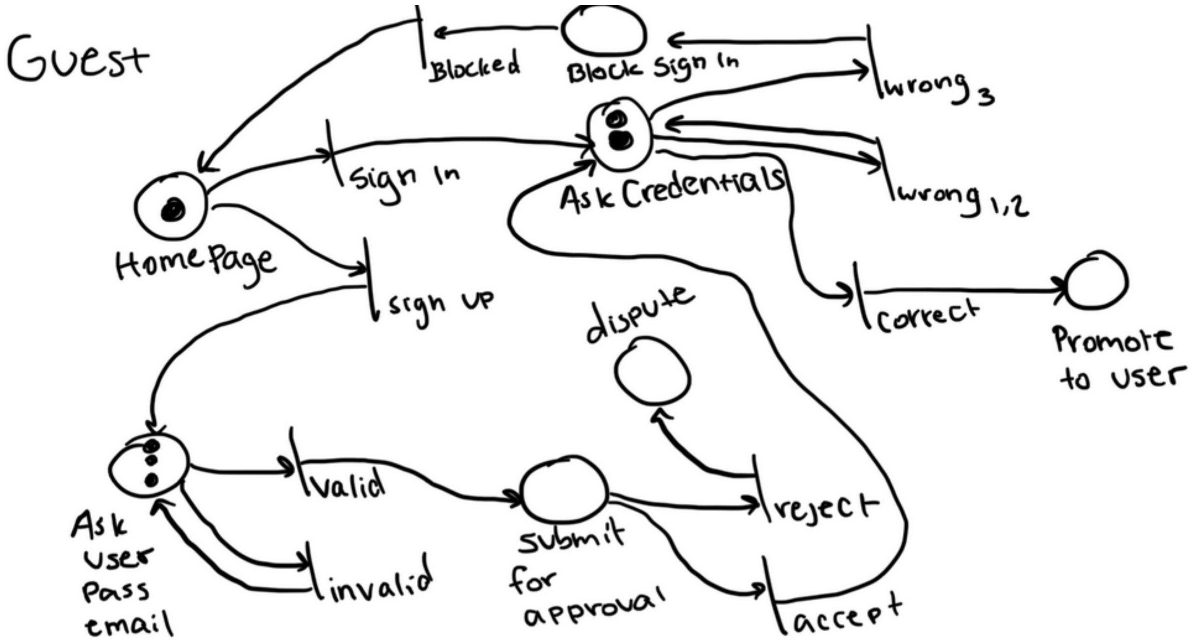
Revision History

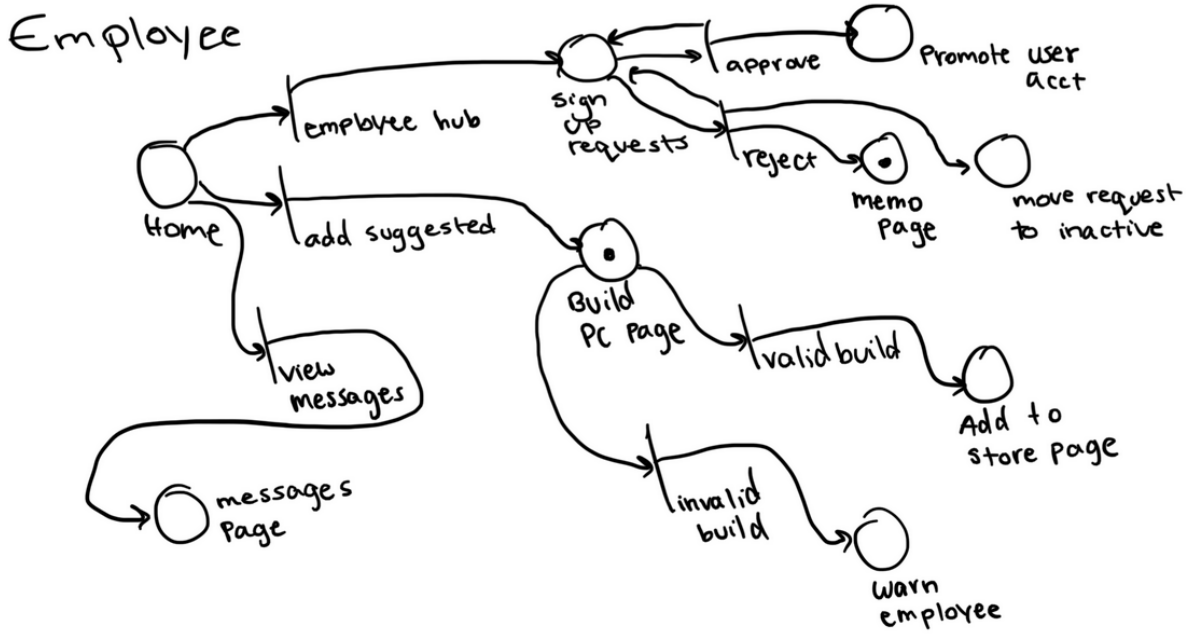
Date	Version	Description	Author
4/23/2023	1.0		Nabil Omi Tanim Islam Jobanpreet Singh Jiazhou Zhang

1. Introduction

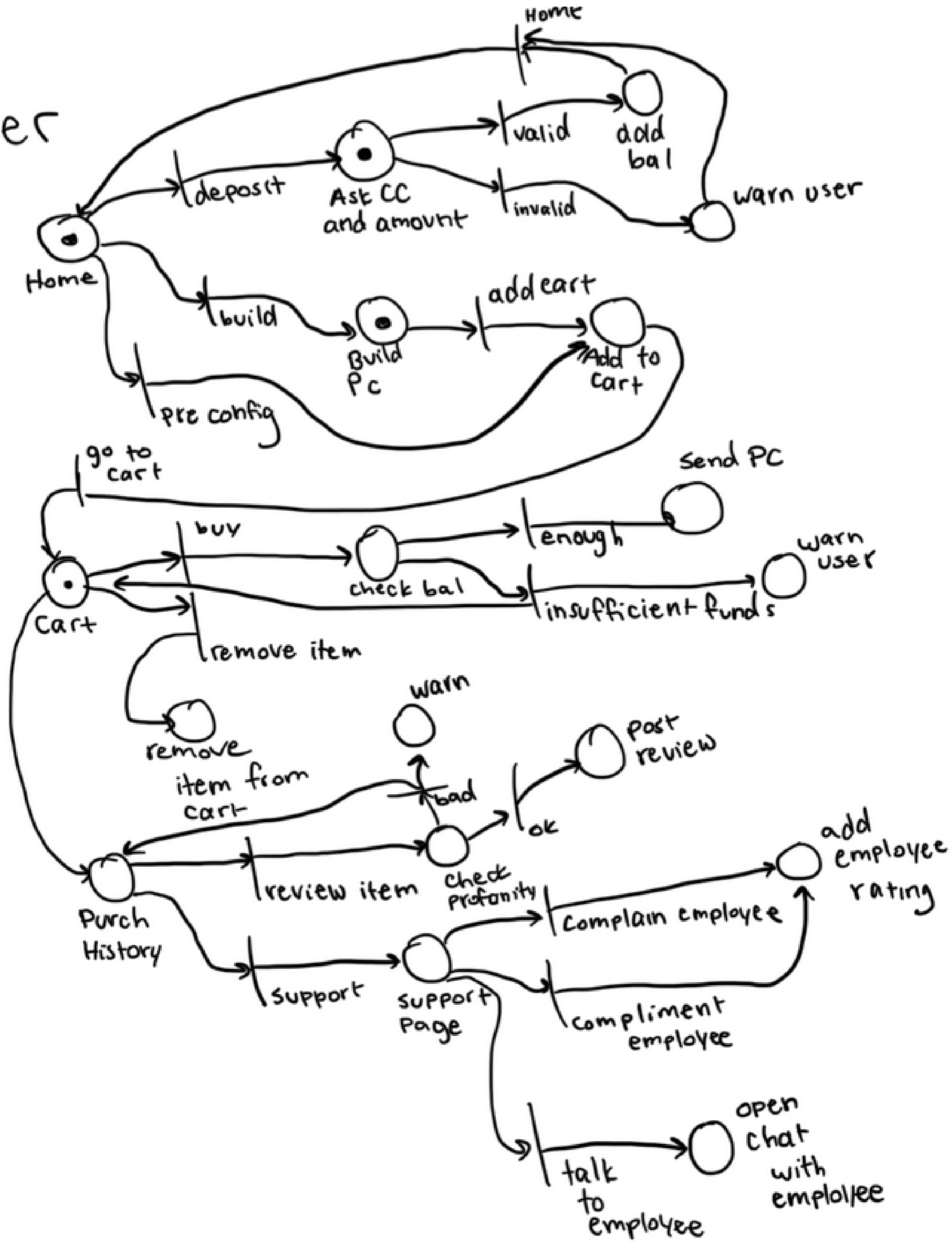


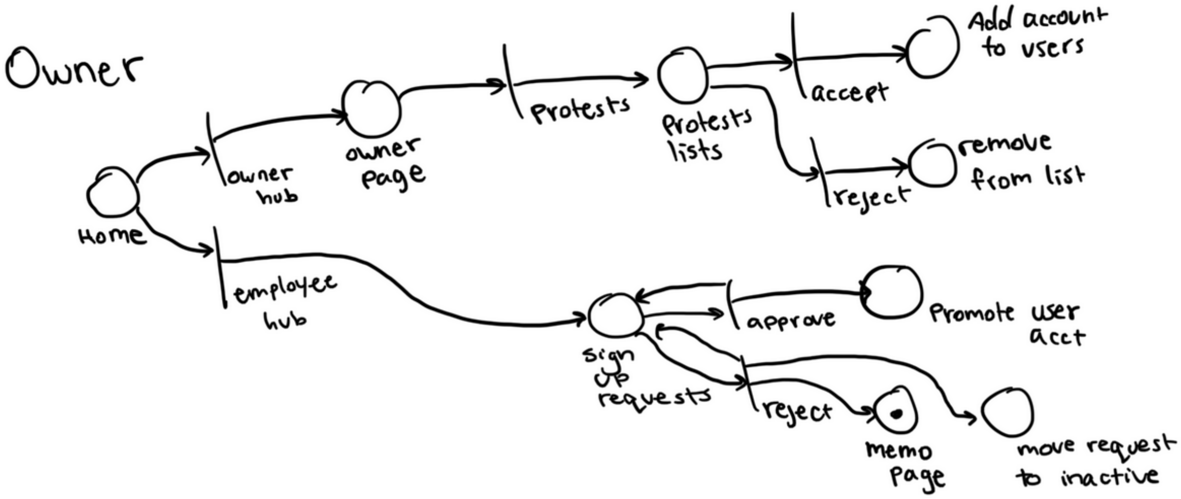
2. All Use Cases



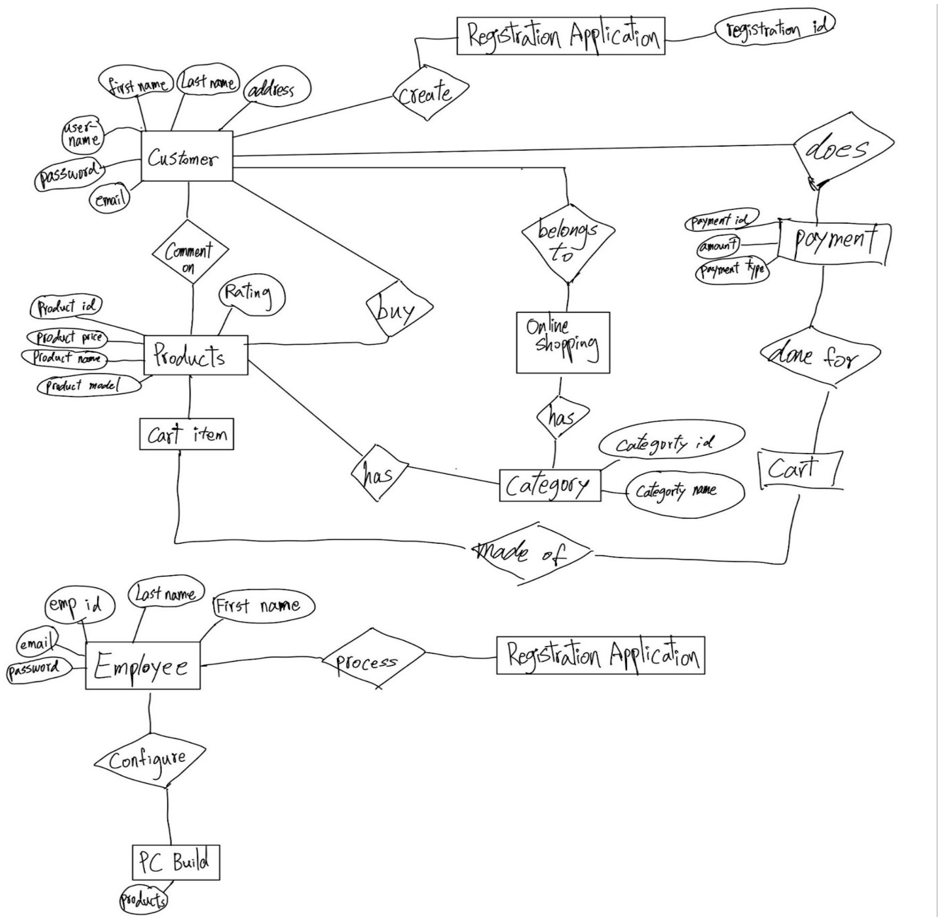


User


Home
valid
add bal
deposit
Ask CC and amount
invalid
warn user
Home
build
add cart
Build PC
Add to Cart
pre config
go to cart
send PC
buy
enough
check bal
warn user
Cart
insufficient funds
remove item
warn
remove item from cart
post review
bad
ok
add employee rating
review item
Check Profanity
Purch History
complain employee
support
Support Page
compliment employee
talk to employee
open chat with emplolee


Owner
Home
owner hub
owner page
Protests
Protests lists
accept
Add account to users
reject
remove from list
employee hub
sign up requests
approve
Promote user acct
reject
memo Page
move request to inactive

3. E-R Diagram


Registration Application
registration id
create
first name
Last name
address
user-name
password
email
Customer
does
belongs to
Comment on
Rating
buy
Product id
product price
Product name
product model
Products
Online shopping
payment id
amount
payment type
payment
done for
has
categorty id
categorty name
Category
Cart item
has
Cart
made of
emp id
Last name
First name
email
password
Employee
process
Registration Application
Configure
PC Build
products

4. Detailed Design

Customer Instance:

- userID
- name
- email
- address
- accountBalance
- accountStatus
- purchasedList
- cart
- compliments
- warnings
- discountPercentage

Employee Instance:

- ID
- name
- email
- position
- employmentStatus
- compliments
- warnings
- demotions
- promotions

Component Instance:

- ID
- name
- type
- specifications (socket type, power requirements)
- price
- stock
- commentsList
- ratingsList
- reviewsList

Computer Build Instance:

- ID
- CPU
- CPUCooler
- MotherBoard

- Memory
- Storage
- VideoCard
- Case
- PowerSupply
- OperatingSystem
- Monitor

Application Instance:

- applicationID
- name
- email
- address
- userID
- applicationStatus
- employeeID (the one who processed the application)
- memo
- protest text

suggestedBuilds:

- A global list of suggested computer builds

depositMoney

- Inputs: Customer ID, Amount
- Outputs: Success/Failure message
- Main functionalities:
    - Check if the user is a customer.
    - Find the customer's account by their ID.
    - Add "Amount" value to Customer's balance.
    - Return a success or failure message to the user.

completePurchase

- Inputs: List of components, Customer ID
- Outputs: Success/Failure message
- Main functionalities:
    - Check if total price of components exceeds customer balance, if it does, issue a warning for the customer and deny purchase with a message.
    - After completing the purchase If the computer build is not a suggested build, then ask the customer if the store can use their build as a new suggested build.
    - Ask the customer to rate their configuration from a scale of 1-5

addSuggestedBuild

- Inputs: Computer Build
- Outputs: N/A
- Main functionalities:
    - Add build to the list of suggested builds.

selectSuggestedBuild

- Inputs: Selected Build
- Outputs: N/A
- Main functionalities:
    - Give the user the option to customize the selected build
    - Give the user the option to add the build to their cart

checkSuggestedBuild

- Inputs: Suggested Computer Build
- Outputs: N/A
- Main functionalities:
    - Check the ratings of the suggested build, if it has more than 3 five star ratings and no 1 star rating, compliment the customer or the employee responsible.
    - If the build has more than 3 one star rating, and no 5 star ratings, the employee or customer will receive a warning
    - If the build has only one star ratings, the build will be removed from the website, and the user associated will be issued a warning.
    - If the build has only five star ratings, the build will be put at the top of the page, and the user associate will receive a compliment.

commentOnItem

- Inputs: Item ID, User ID, Comment Text
- Outputs: Success/Failure message
- Main Functionalities:
    - Check if user is guest or customer
    - Check if item exists
    - Save comment and associate it with the item
    - If user is logged in, associate the comment with user id
    - Make the comment go through language checking.
    - return success/failure message

buildCustomComputer

- Inputs: Customer ID
- Outputs: List of compatible components ready for purchase
- Main Functionalities:
    - Check if user is a valid customer

    - Prompt the user to select computer parts from a list (CPU, Motherboard, Video Card, etc.)
    - Upon each selection, before adding to a list and check compatibility of the part,
    - If the parts selected are incompatible, give a warning to the user so they may deselect a part.
    - When deselecting a part already in the list, the part will be removed from the list.
    - return a list of compatible components for the user

createSuggestedBuild

- Inputs: Employee ID
- Outputs: A Custom Computer Build Class
- Main Functionalities:
    - Check if employee is a valid employee
    - Prompt the Employee to build a custom computer
    - Designate a name for the custom computer
    - return the custom computer as a class object

checkCompatibility

- Inputs: List of Components, newest selected component
- Outputs: Compatible (boolean)
- Main Functionalities:
    - Check if the newest component is compatible with the already existing list
    - return true/false

addToCart

- Inputs: Item ID, User ID
- Outputs: Success/Failure message
- Main Functionalities:
    - Check if the user is a customer
    - Check if the item exists
    - Add the item to the customer's cart
    - Associate the user id of the customer with the cart
    - return a success/failure message to the user

reviewProduct

- Inputs: Item ID, Rating, User ID, Review Text
- Outputs: Success/Failure message
- Main Functionalities:
    - Check if the user is a customer
    - Check if the item exists
    - Add the rating and review text to the Item's reviews
    - Associate the review with the user's id
    - Make the review go through language checking before submission

    - return a success/failure message

verifyEmployee

- Inputs: Employee ID
- Outputs: True/False
- Main Functionality:
    - Look through DataBase to make sure the employee id inputted is a valid employee
    - return true or false

getEmployee

- Inputs: Employee List
- Outputs: Employee ID
- Main Functionality:
    - Look through the Employee list for a working employee
    - Check if its a valid employee
    - return employee id for use.

email

- Inputs: User ID, User Email, Message Text
- Outputs: Chat history
- Main Functionalities:
    - Check if the user is a customer
    - Create an ongoing issue and associate the message with it
    - Make message go through language checking
    - Send message to the store

respondToCustomer

- Inputs: Employee ID
- Outputs: N/A
- Main Functionalities:
    - Associate the response with the employee
    - Employees will be given an option to respond or close the conversation.
    - If conversation closed, a message will be sent to the customer indicating the closed conversation and the customer will be prompted with a complaint or compliment option with justifications.
    - After the conversation is closed, the employee can also file a complaint or compliment for the customer.
    - Both complaints and compliments by either party will be sent to the store owner for processing.
    - If the conversation not closed, an email can be sent back to the customer with the employee’s response if the employee chooses to do so.
    - Their response will go through language checking.

    - All conversations will be saved under a complaint or compliment id with customer and employee information.

processComplaintsAndCompliments

- Inputs: Complaint or Compliment ID
- Outputs: N/A
- Main Functionality:
    - The Store Owner will be able to look through the complaint or compliments and select a customer or employee for punishment or reward.
    - Upon selection of the customer or employee in question, the store owner can select the number of compliments or warnings to be issued and submitted for the user.
    - Upon submission, the employee or customer will be notified of their rewards or punishments via their email.

customerApplication

- Inputs: Personal Information (Name, Email, Address, UserID, etc)
- Outputs: Success/Failure message
- Main Functionalities:
    - Check if the user is a guest
    - Collect user's personal information
    - Create Customer application with the personal information (will be under an Application ID)
    - Find an employee to send the application
    - Send the application to the employee for processing with application id
    - Depending on the employee's assessment, return a success/failure message to the customer.
    - In case of a rejection by the employee, they will be prompted for a memo to send to the store owner. The customer will also be given an opportunity to protest.

processCustomerApplication

- Inputs: Employee ID, Application ID
- Outputs: Accept/Reject (boolean)
- Main Functionalities:
    - Check if application is valid
    - Display application info to the employee
    - prompt the employee to accept or reject the application
    - return true (accept) false (reject).

issueWarning

- Inputs: # of warnings, User ID (Customer or Employee)
- Outputs: N/A
- Main Functionalities:

    - If user is a customer and the # of warnings in their system = 3, then the customer will be informed that their account is deactivated and must talk to store employees in person to resolve the problem.
    - If the user is an employee and they have 3 warnings, they will be demoted.

deactivateAccount

- Inputs: User ID (Customer or Employee)
- Outputs: N/A
- Main Functionalities:
    - Delete any info related to user

demoteEmployee

- Inputs: Employee ID
- Outputs: N/A
- Main Functionalities:
    - Increase the # of demotions the employee has.
    - Check if the # of demotions the employee received is less than 2. If it is, then simply change the status of the employee and reduce their salary.
    - If the # of demotions is equal to 2 then message the employee that they have been fired and deactivate their account.

issueCompliment

- Inputs: # of compliments, User ID (Customer or Employee)
- Outputs: N/A
- Main Functionalities:
    - If user is a customer and the # of compliments in their system = 3, then the customer will be informed that a 10% discount will be applied to their next purchase.
    - If the user is an employee and they have 3 compliments, they will be promoted.

promoteEmployee

- Inputs: Employee ID
- Outputs: N/A
- Main Functionalities:
    - Increase the employee's salary and change their status

getMemo

- Inputs: Employee ID, Application ID
- Outputs: Memo that indicates what employee wrote it, and for what application
- Main Functionalities:
    - Check if application Id is valid
    - Prompt the Employee for a memo
    - Attach the application id and employee id to the memo.
    - Make the memo go through language checking

    - return the memo.

protestApplicationRejection

- Inputs**:** Application Id
- Outputs: Message sent success
- Main Functionalities:
    - Prompt user with the option to write protest text (minimum amount of characters enforced)
    - Make the protest text go through language checking
    - Save protest text under application id and send to store owner
    - return “protest sent” message to user.

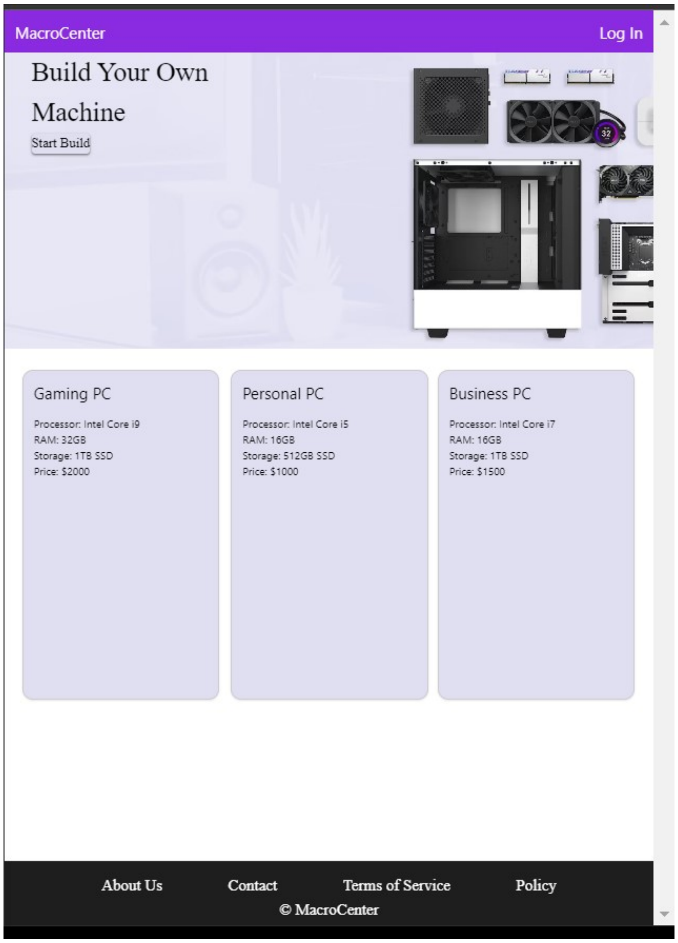
languageChecker

- Inputs: User ID (optional), Text
- Outputs: Valid/Invalid (boolean), filteredText
- Main Functionality:
    - Have a list of taboo words ready for comparison
    - Iterate through the input text and sort any taboo words found in another list
    - replace each detected taboo word with “*”
    - Count the number of taboo words found
    - If the user is a visitor, delete the text altogether and not show it.
    - If the user is a customer or employee and the number of taboo words is less than or equal to 3, then they will be issued a warning with the text shown.
    - If the user is a customer or employee and the number of taboo words is more than 3, then they will be issued 2 warnings and the text will not be shown.
    - Return if the text is valid or not and the filtered text when needed.

5. System Screens

In this section we have attached screenshots of major GUI screens of our system. The screens are currently work in progress and do not include all of the functionality of the system.

Screen 1: The Landing Page



Gaming PC

Processor: Intel Core i9
RAM: 32GB
Storage: 1TB SSD
Price: $2000

Personal PC

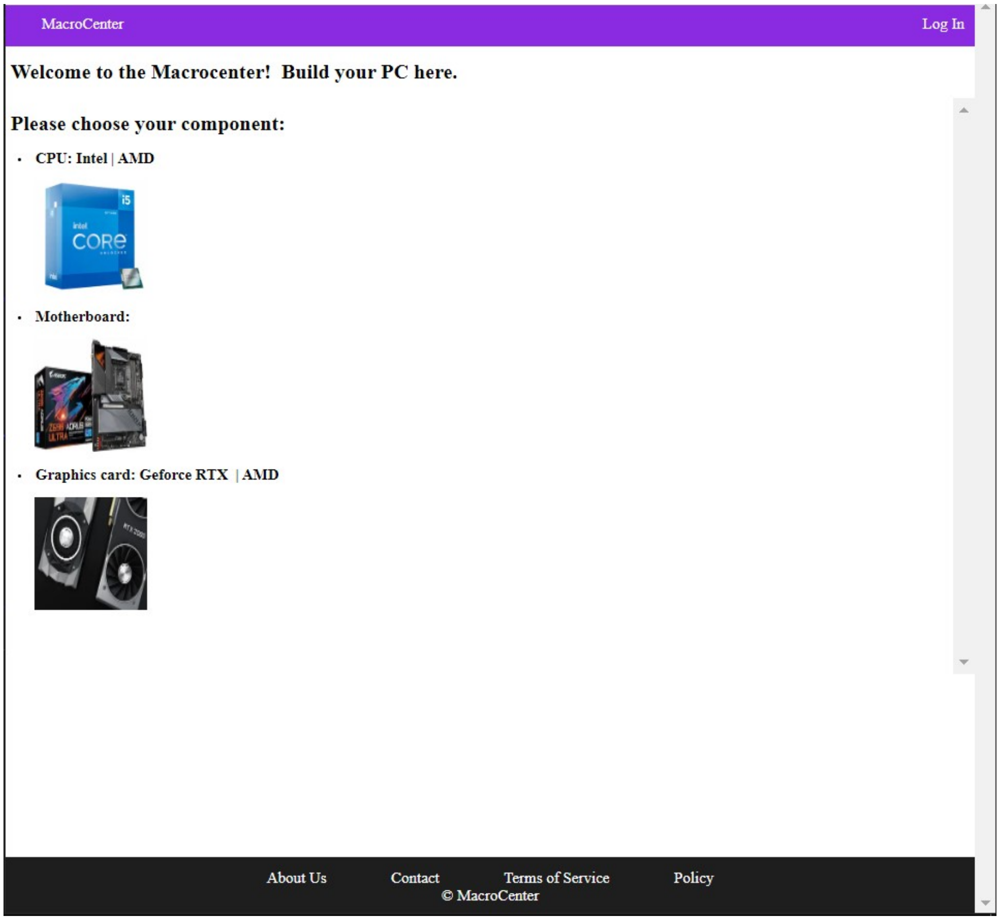
Processor: Intel Core i5
RAM: 16GB
Storage: 512GB SSD
Price: $1000

Business PC

Processor: Intel Core i7
RAM: 16GB
Storage: 1TB SSD
Price: $1500

This is the main screen that the user opens to when they open our website. Starting at the top we have a navbar which currently includes our company's name and a login button. We will add to the navbar the following: button for register, add to cart, build computers , parts, completed builds, and Guides. Underneath the navbar is a banner with a “Start Build” button that takes the user to the builds page (Screen 2). Next, we have three cards which show different kinds of PC’s that a user can choose. The user can click on any of the cards and it will direct them to the addToCart page (screen 3), where the user will have more details about the product and a button to add the item to the shopping cart. Lastly, at the bottom is a footer which includes links to the pages: about , contact, term of service, and policy.

Screen 2: Builds Page



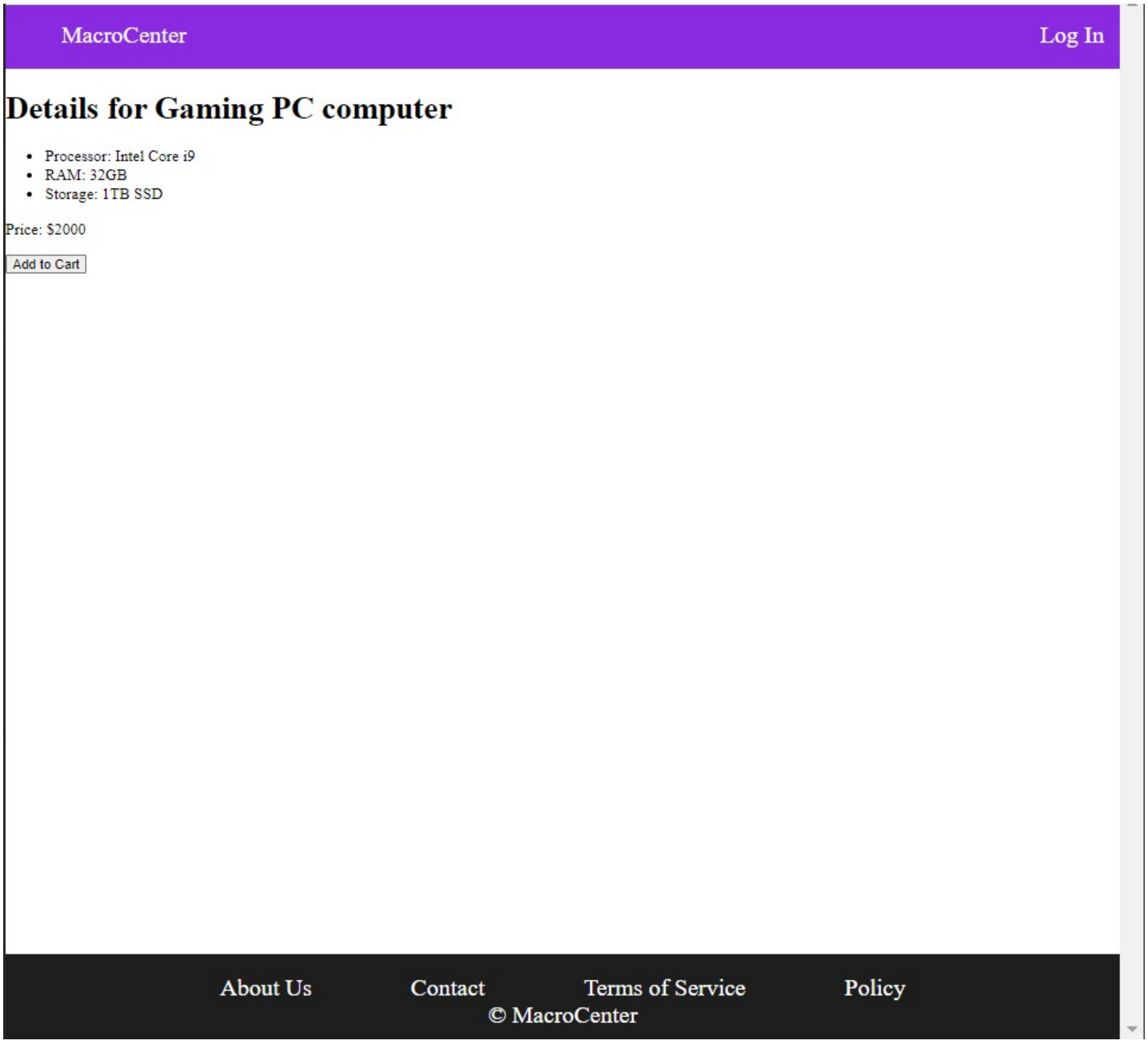
Welcome to the Macrocenter! Build your PC here.

Please choose your component:

- **CPU: Intel | AMD**
- **Motherboard:**
- **Graphics card: Geforce RTX | AMD**

This is the build page that allows the user to choose the different components they want in their computer. Similar to other pages this includes the same navbar and the footer. We are working on adding buttons to each product that will allow the user to add or remove the component from build.

Screen 3: Add to Cart/ Details page



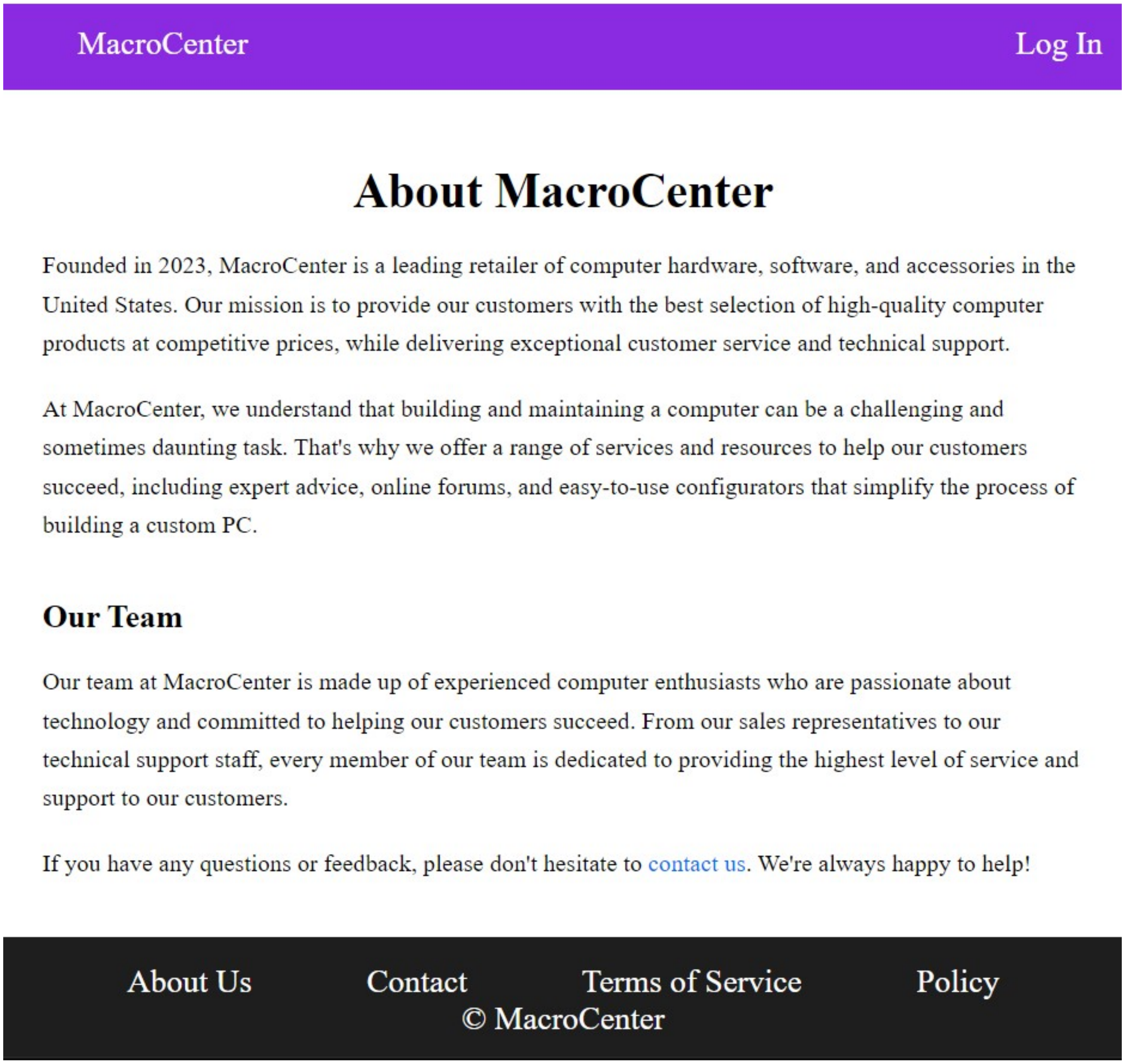
Details for Gaming PC computer

- Processor: Intel Core i9
- RAM: 32GB
- Storage: 1TB SSD

Price: $2000

This the addToCart page which shows that navbar, details about the Computer, button to add to the cart, and footer. We are working on adding images of the components that are part of the build. The footer and navbar are similar to all of the other pages.

Screen 4: About Us page



About MacroCenter

Founded in 2023, MacroCenter is a leading retailer of computer hardware, software, and accessories in the United States. Our mission is to provide our customers with the best selection of high-quality computer products at competitive prices, while delivering exceptional customer service and technical support.

At MacroCenter, we understand that building and maintaining a computer can be a challenging and sometimes daunting task. That's why we offer a range of services and resources to help our customers succeed, including expert advice, online forums, and easy-to-use configurators that simplify the process of building a custom PC.

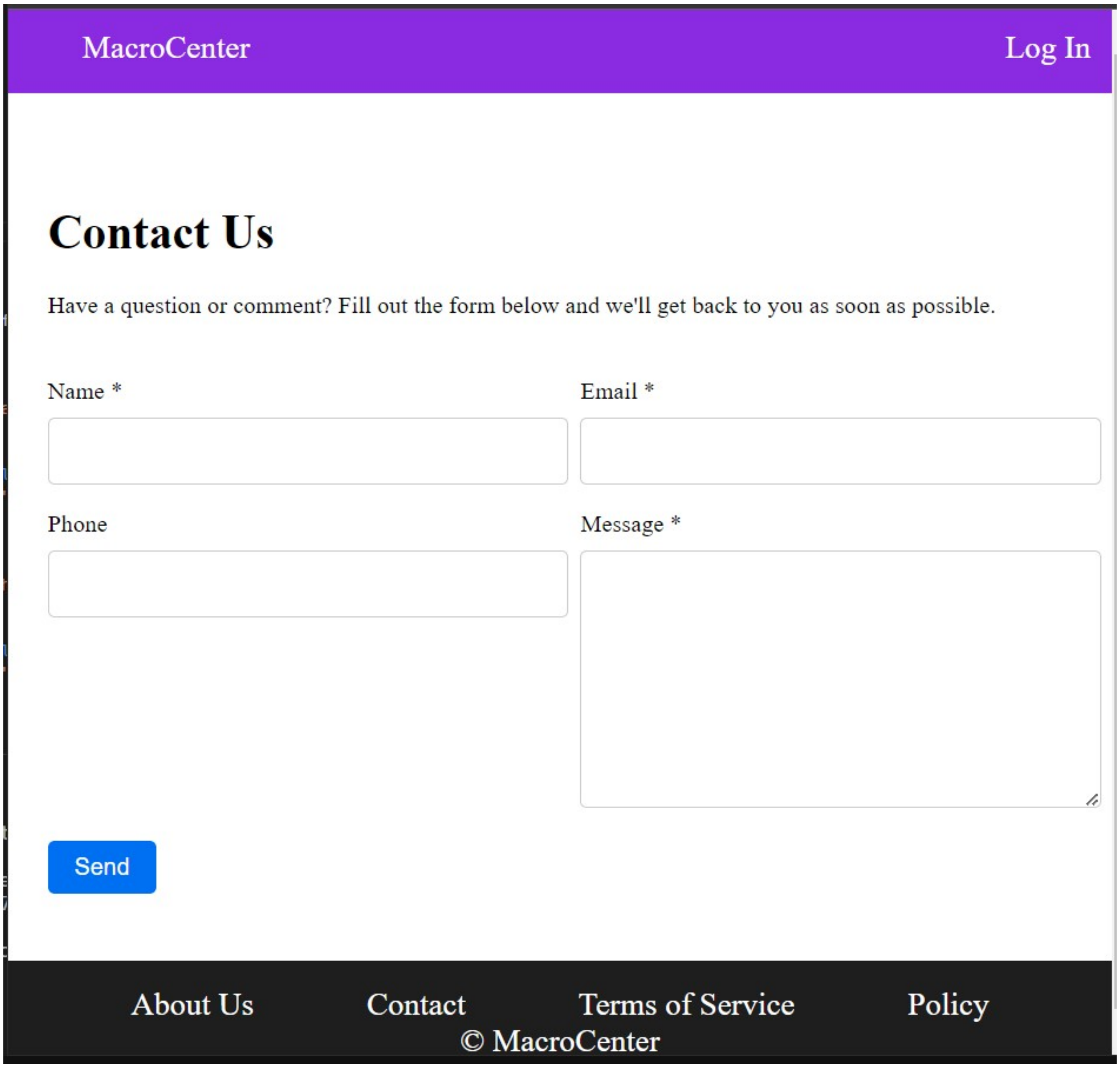
Our Team

Our team at MacroCenter is made up of experienced computer enthusiasts who are passionate about technology and committed to helping our customers succeed. From our sales representatives to our technical support staff, every member of our team is dedicated to providing the highest level of service and support to our customers.

If you have any questions or feedback, please don't hesitate to contact us. We're always happy to help!

Similar to other pages, the about us page includes information about the MacroCenter team. At top we have a navbar and at the bottom we have a footer. In the middle, we wrote a description of our team and a link to the contacts page.

Screen 5: Contact us page

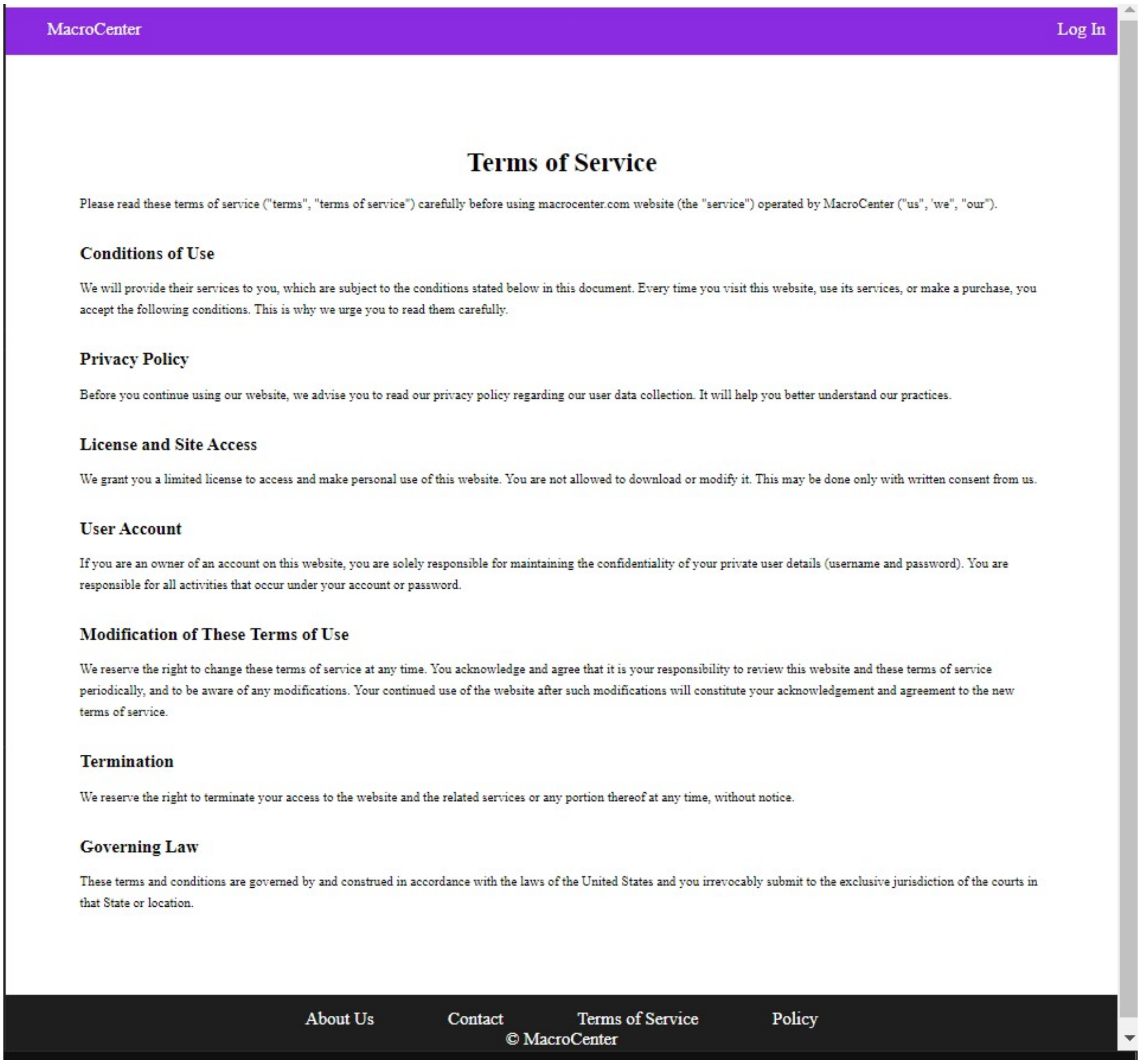


Contact Us

Have a question or comment? Fill out the form below and we'll get back to you as soon as possible.

This is the contact us page which includes a form that the user can fill out and send to the MacroCenter team. The name, email, and message fields are required to send the message. The functionality behind the send button is under progress.

Screen 6: Terms of Service



Terms of Service

Please read these terms of service ("terms", "terms of service") carefully before using macrocenter.com website (the "service") operated by MacroCenter ("us", 'we", "our").

Conditions of Use

We will provide their services to you, which are subject to the conditions stated below in this document. Every time you visit this website, use its services, or make a purchase, you accept the following conditions. This is why we urge you to read them carefully.

Privacy Policy

Before you continue using our website, we advise you to read our privacy policy regarding our user data collection. It will help you better understand our practices.

License and Site Access

We grant you a limited license to access and make personal use of this website. You are not allowed to download or modify it. This may be done only with written consent from us.

User Account

If you are an owner of an account on this website, you are solely responsible for maintaining the confidentiality of your private user details (username and password). You are responsible for all activities that occur under your account or password.

Modification of These Terms of Use

We reserve the right to change these terms of service at any time. You acknowledge and agree that it is your responsibility to review this website and these terms of service periodically, and to be aware of any modifications. Your continued use of the website after such modifications will constitute your acknowledgement and agreement to the new terms of service.

Termination

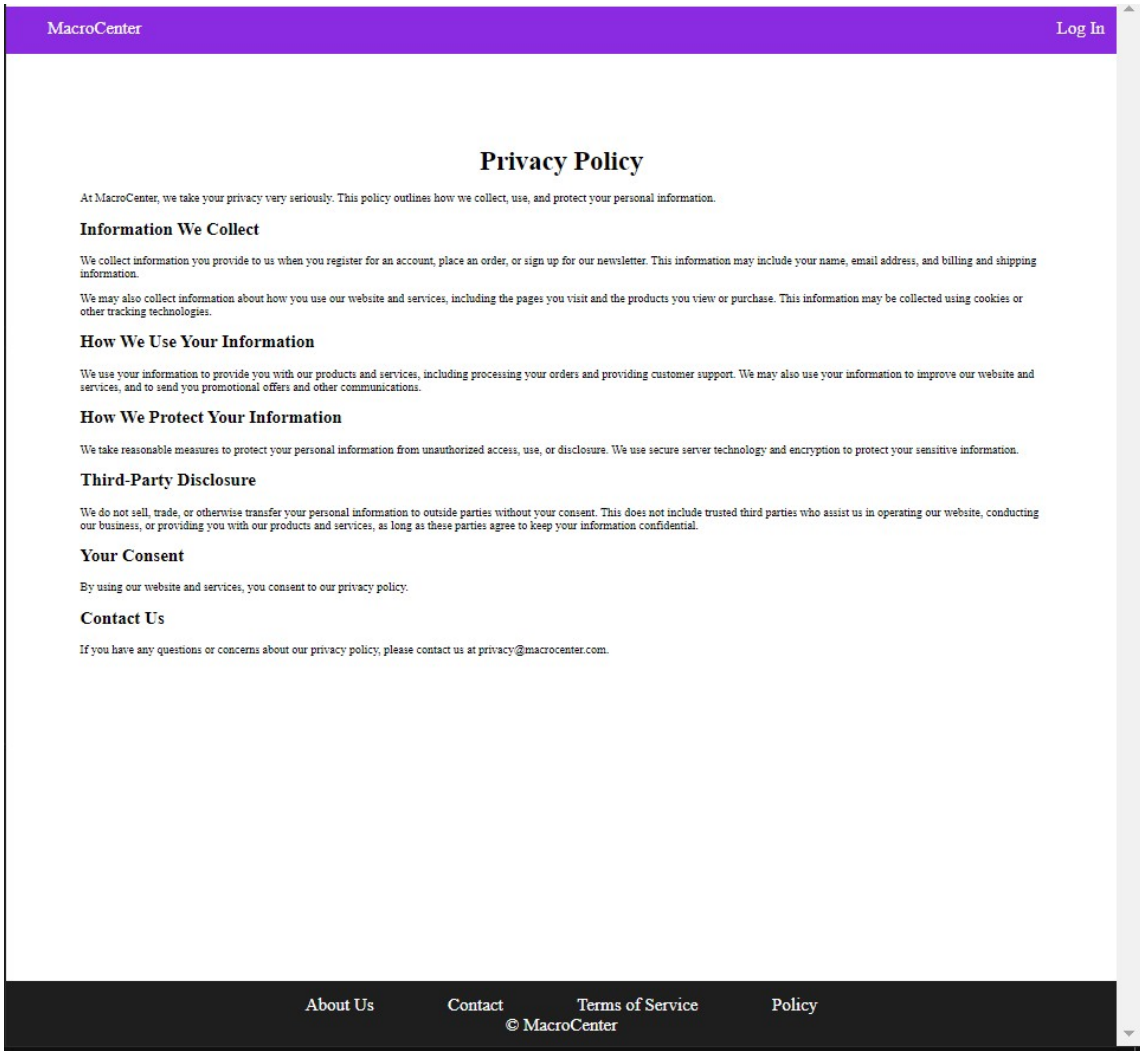
We reserve the right to terminate your access to the website and the related services or any portion thereof at any time, without notice.

Governing Law

These terms and conditions are governed by and construed in accordance with the laws of the United States and you irrevocably submit to the exclusive jurisdiction of the courts in that State or location.

This page lists the terms of service for our website along with the navbar and footer. We are working on enhancing the terms of our system and will update them later. This page will only include text and not images.

Screen 7: Policy page



Privacy Policy

At MacroCenter, we take your privacy very seriously. This policy outlines how we collect, use, and protect your personal information.

Information We Collect

We collect information you provide to us when you register for an account, place an order, or sign up for our newsletter. This information may include your name, email address, and billing and shipping information.

We may also collect information about how you use our website and services, including the pages you visit and the products you view or purchase. This information may be collected using cookies or other tracking technologies.

How We Use Your Information

We use your information to provide you with our products and services, including processing your orders and providing customer support. We may also use your information to improve our website and services, and to send you promotional offers and other communications.

How We Protect Your Information

We take reasonable measures to protect your personal information from unauthorized access, use, or disclosure. We use secure server technology and encryption to protect your sensitive information.

Third-Party Disclosure

We do not sell, trade, or otherwise transfer your personal information to outside parties without your consent. This does not include trusted third parties who assist us in operating our website, conducting our business, or providing you with our products and services, as long as these parties agree to keep your information confidential.

Your Consent

By using our website and services, you consent to our privacy policy.

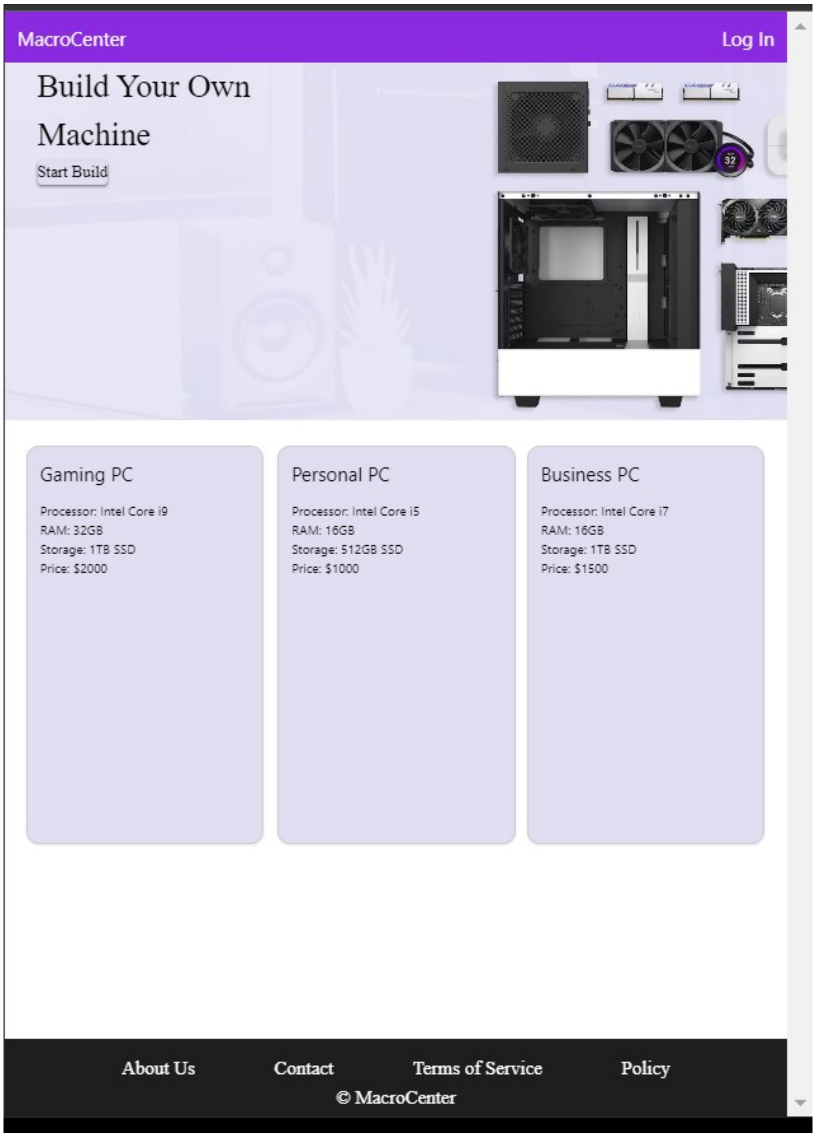
Contact Us

If you have any questions or concerns about our privacy policy, please contact us at privacy@macrocenter.com.

This page lists the private policy related to our website along with the navbar and footer. We are working on enhancing the policies for all different users and will update them later. This page will only include text and not images.

Functionality: adding pre-built computer to cart

Step 1: choose either a gaming pc, personal pc, or business pc



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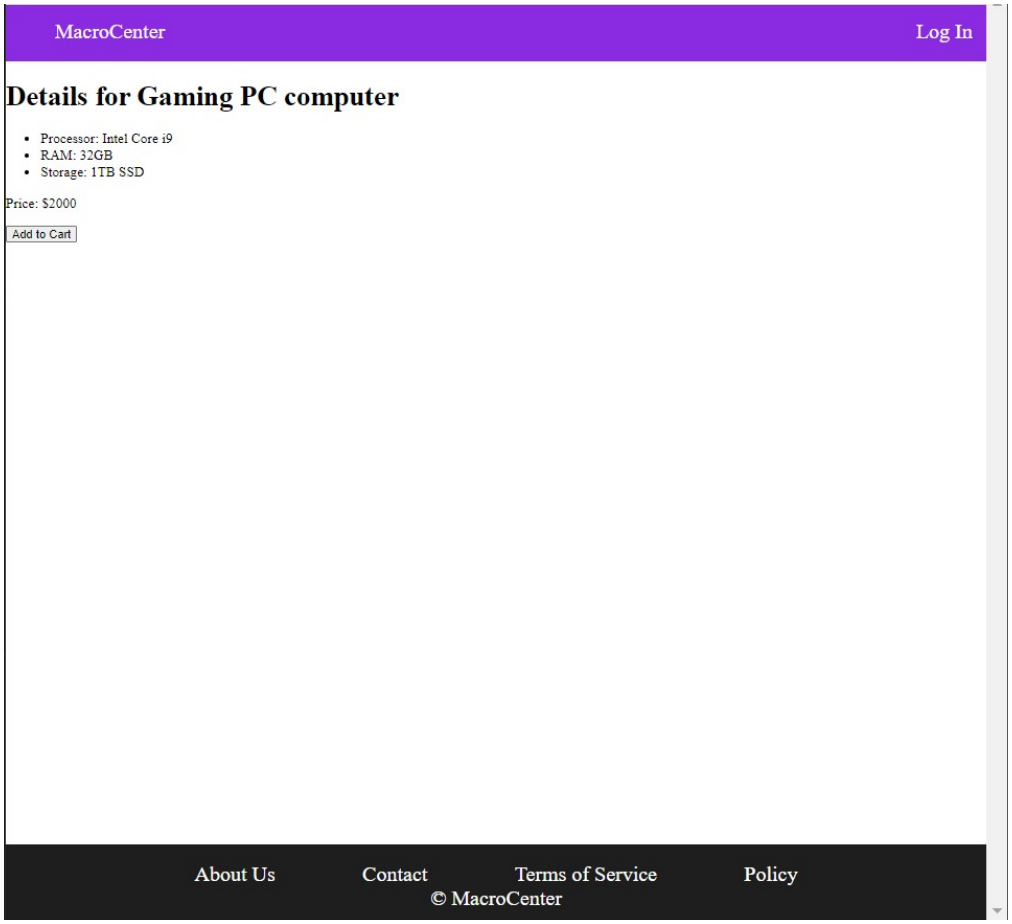
Storage: 512GB SSD
Price: $1000

Business PC

Processor: Intel Core i7
RAM: 16GB
Storage: 1TB SSD
Price: $1500

step 2: look at the description and click add to cart



Details for Gaming PC computer

- Processor: Intel Core i9
- RAM: 32GB
- Storage: 1TB SSD

Price: $2000

Now the computer will be inside the shopping cart which the user can purchase. We are still working on creating the shopping cart with multiple purchase options.

6. Group Meeting Memos

Our group has been meeting up continuously throughout the semester virtually. We discussed which members would contribute to which parts of the project and any self-imposed deadlines for those parts, essentially giving out roles such as product manager, backend engineer, frontend engineer, UI designer, etc. There are no concerns with group work and everyone has done their parts well.

7. Git Repo

https://github.com/gohzer/csc322_lttstore